TRANSPORTATION MANAGEMENT
Managing Traffic During Poor Visibility

California Department of Transportation fights the battle against the fog in the major valleys between September through April. The Caltrans Automated Warning System was created because of safety issues caused by converging traffic patterns and areas of dense fog. The system can also detect blowing dust, traffic congestion and high winds. The primary functions are detecting reduced visibility and congested traffic followed by automated changeable message signs to provide advanced warning to the motorists. The system consists of nine remote meteorological stations along two primary corridors. The same corridors have thirty-six traffic monitoring stations with dedicated leased lines for communications. The last of the major component are the nine self-illuminating changeable message signs. This original system was deployed in the summer of 1996 and currently has variable visibility threshold of five hundred and two hundred feet. These settings can be overridden by twenty-five mile per hour winds or traffic speed below thirty-five miles per hour. The traffic congestion feature will place additional messages at or below eleven miles per hour.

The Office of Traffic Safety has provided three grants for the assessment of the system. We are currently in the final stages of evaluating the impact the system has on driver behavior during limited visibility conditions. This study may yield the most telling results in the nation on driver behavior in fog. The study before that shows that the complete system was operationally sound. While the first study showed the technical merits of combining traffic monitoring, visibility detection and message signs were valid.

The future of the system will include the expanding of the field elements. The original processors have performed well, but need upgrading for added network features. The data and associated real time map will be moved from the intranet on to the internet. The communications network will be improved with a complete wireless system to provide added redundancy. The front end code in the transportation management center will be upgraded to a java platform, to allow remote operations. Caltrans would be happy to share all of the above in more detail presentation at the conference.